

FREE ORIGINAL STARTER BOOKLET

Class 9 Science Olympiad practice

For students exploring SOF ISO. Concept notes, worked examples, and six original questions with answers.

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How to use this booklet

Read one concept note, cover its worked example, and try the matching questions without looking at the answers. Then check the official syllabus for anything this short guide does not cover.

Syllabus map

Motion, forces, energy and sound; matter and atomic structure; cells, tissues, health and food resources; reasoning.

This is a broad revision map, not a transcription or a complete SOF syllabus. For the authoritative current topic list and exam pattern, use the official source linked at the end.

Four concepts to practise

Motion and force

Average speed is total distance divided by total time. Velocity also specifies direction. Newton's second law relates net force, mass and acceleration as $F=ma$.

Worked example: A runner travels 150 m in 30 s. Average speed is $150/30=5$ m/s.

Energy and sound

Work done by a constant force in its direction equals force times displacement. Sound needs a material medium and cannot travel through a vacuum.

Worked example: A 10 N force moves a box 3 m in its own direction. Work done is 30 J.

Atoms and matter

Matter is made of particles. A pure compound has elements combined in a fixed ratio; a mixture can have variable composition and may be separated by physical methods.

Worked example: Water is a compound; sand mixed with salt is a mixture.

Cells and tissues

A cell is the basic structural unit of living organisms. Tissues are groups of similar cells working together. In most eukaryotic cells the nucleus contains genetic material.

Worked example: Muscle tissue consists of specialised cells that contract to produce movement.

Your turn

Try each problem before checking the answer key on the next page.

1. A train travels 240 m in 20 s. Find its average speed.
2. What force accelerates a 2 kg mass at 3 m/s^2 ?
3. Can sound travel through a vacuum? Explain.
4. Is air a compound or a mixture?
5. Name the cell structure that holds most genetic material.
6. A 5 N force moves an object 4 m along the force. Find work done.

Answers and next steps

1. 12 m/s; divide distance by time.
2. 6 N; use $F=ma$.
3. No; sound needs particles of a material medium.
4. A mixture; its gases are not combined in a fixed chemical ratio.
5. The nucleus, in a typical eukaryotic cell.
6. 20 J; multiply force by displacement.

What this does not cover

This short booklet is not a full textbook, full-length mock exam, or complete syllabus. SOF Level 1 also includes logical reasoning and an achievers section. Revisit your current and previous class concepts before an exam.

Official source

SOF ISO Class 9 syllabus

Prepared by BodhiScore. Reviewed October 2026. The linked SOF page is the final authority for changes.